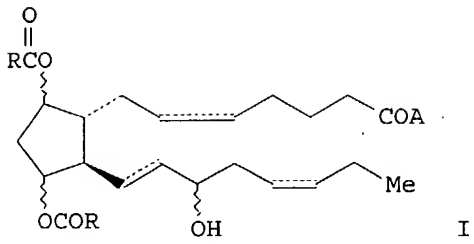
```
=> d his

     (FILE 'HOME' ENTERED AT 19:30:43 ON 20 DEC 2004)

     FILE 'REGISTRY' ENTERED AT 19:30:51 ON 20 DEC 2004
L1             1 S 97-72-3/RN
L2             1 S 108-24-7/RN

     FILE 'CAPLUS' ENTERED AT 19:31:22 ON 20 DEC 2004
L3            38 S L1/PREP
L4            17 S L3 AND L2

     FILE 'REGISTRY' ENTERED AT 19:32:05 ON 20 DEC 2004

     FILE 'CAPLUS' ENTERED AT 19:32:05 ON 20 DEC 2004

     FILE 'REGISTRY' ENTERED AT 19:32:14 ON 20 DEC 2004

     FILE 'CAPLUS' ENTERED AT 19:32:15 ON 20 DEC 2004

     FILE 'REGISTRY' ENTERED AT 19:34:19 ON 20 DEC 2004
L5             1 S 79-31-2

     FILE 'CAPLUS' ENTERED AT 19:34:47 ON 20 DEC 2004

=> s l4 and 5
       5765326 5
L6             6 L4 AND 5

=> d bib abs 1-6

L6   ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   1997:589048  CAPLUS
DN   127:234784
TI   Acylated polyallylamine and process for producing the same
IN   Kato, Tadashi; Hayashi, Ikuo; Takeuchi, Minoru; Endo, Tadao
PA   Nitto Boseki Co., Ltd., Japan
SO   Eur. Pat. Appl., 25 pp.
     CODEN: EPXXDW
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.        DATE
     ---------------      ----   --------    --------------------   --------
PI   EP 791605             A2    19970827    EP 1997-300859         19970211
     EP 791605             A3    19980114
         R:  CH, DE, FR, GB, LI
     JP 09286816           A2    19971104    JP 1997-3176           19970110
     JP 3199227            B2    20010813
     NO 9700768            A     19970821    NO 1997-768            19970219
PRAI JP 1996-31713         A     19960220
AB   Acylated polyallylamine with low cation d. is easily produced by treating
     a solution of polyallylamine having a polymerization degree of at least 10
with a
     carboxylic acid anhydride such as acetic anhydride.  Thus, adding 189.4 g
     Ac2O in 4 h to 3443 g 10% aqueous PAA-10C (polyallylamine) solution at 0-
     5°, adding 511.13 g 14.83% aqueous NaOH solution to neutralize
     HOAc byproduct, and electrodialyzing 44 h to remove salts gave 30 mol%
     acetylated product.

L6   ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   1993:602807  CAPLUS
DN   119:202807
```

TI Cobalt(II)-catalyzed reaction of aldehydes with acetic anhydride under an oxygen atmosphere: scope and mechanism
AU Bhatia, Beena; Punniyamurthy, T.; Iqbal, Javed
CS Dep. Chem., Indian Inst. Technol., Kanpur, 208016, India
SO Journal of Organic Chemistry (1993), 58(20), 5518-23
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
OS CASREACT 119:202807
AB The reaction of aldehydes with acetic anhydride in the presence of catalytic cobalt(II) chloride under an oxygen atmospheric at ambient temperature is dependent upon the reaction medium. Aliphatic aldehydes react in acetonitrile to give 1,2-diones whereas the aromatic aldehydes are acylated to yield the corresponding acylals. On the other hand, carboxylic acids are obtained from aliphatic and aromatic aldehydes by conducting the reaction in dichloromethane or benzene. Cobalt(II) chloride in acetonitrile catalyzes the conversion of aliphatic aldehydes to the corresponding anhydrides in the absence of acetic anhydride whereas aromatic aldehydes remain largely unaffected under these conditions. A preliminary mechanistic study in three different solvents (i.e. acetonitrile, dichloroethane, and DMF) has revealed that in acetonitrile and in the presence of acetic anhydride, aliphatic aldehydes behave differently than aromatic aldehydes. Some trapping expts. using Me acrylate and stilbene have been conducted to demonstrate the occurrence of an acyl cobalt and peroxyacyl cobalt intermediate during these reactions.

L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:631971 CAPLUS
DN 115:231971
TI Preparation of intraocular pressure-reducing 9,11-diacyl prostaglandins
IN Chan, Ming Fai; Woodward, David Frederick; Gluchowski, Charles
PA Allergan, Inc., USA
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 410787	A2	19910130	EP 1990-308270	19900727
	EP 410787	A3	19911227		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	CA 2020842	AA	19910128	CA 1990-2020842	19900710
	AU 9059791	A1	19910131	AU 1990-59791	19900724
	AU 635294	B2	19930318		
	JP 03058932	A2	19910314	JP 1990-201045	19900727
	US 5034413	A	19910723	US 1990-585284	19900918
PRAI	US 1989-385834	A	19890727		

OS MARPAT 115:231971
GI



I

AB The title compds. I [dashed bond represents single bond or double bond (cis and trans configuration); A = OH, pharmaceutically acceptable salt thereof, OR1; R1 = alkyl; R = (un)saturated acyclic hydrocarbon, (CH2)nR2; n = 0-10; R2 = aliphatic hydrocarbon ring, aromatic or heteroarom. ring] were prepared
Treatment of prostaglandin F2α 15-tert-butyldimethylsilyl ether with isobutyric anhydride in the presence of pyridine and 4-dimethylaminopyridine, followed by deprotection, gave 9,11-diisobutyryl prostaglandin F2α (II). Six hours after topical administration of one drop of 0.1% solution of II, the intraocular pressure was decreased by 1.5 mmHg in rabbits.

L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:234482 CAPLUS
DN 112:234482
TI Polymer-catalyzed synthesis of acid anhydrides
IN Fife, Wilmer K.; Zhang, Zhi Dong
PA Indiana University Foundation, USA
SO U.S., 10 pp. Cont.-in-part of U.S. Ser. No. 52,439.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4874558	A	19891017	US 1988-284846	19881213
PRAI US 1987-52439	A2	19870521		

OS CASREACT 112:234482; MARPAT 112:234482
AB Acid anhydrides are prepared by reaction of carboxylic acids or carboxylate salts with acid halides or acyl-activating agents (e.g., SOCl2) at 0° to room temperature in the presence of catalysts selected from: (a) solid copolymers of 4-vinylpyridine, (b) solid copolymers of 4-vinylpyridine 1-oxide, and (c) water-soluble homopolymers of 4-vinylpyridine 1-oxide. Thus, reaction of Me(CH2)4COCl with PhCO2H using Reillex 425 catalyst (crosslinked 4-vinylpyridine copolymer) in CH2Cl2 at 0° for 10 min to give Me(CH2)4CO2COPh with 94.6% yield and 100% selectivity. Alternatively, use of EtCO2H and SOCl2 at 22-25° in CH2Cl2 with the same catalyst gave 96.0% (EtCO)2O. Use of acid halides and Na formate with a type (b) catalyst gave various mixed formic anhydrides. A type (c) catalyst was used with halides and carboxylate salts in H2O-CH2Cl2 mixts.

L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:423056 CAPLUS
DN 107:23056
TI Phase-managed organic synthesis. 2. A new polymer-assisted synthesis of acid anhydrides
AU Fife, Wilmer K.; Zhang, Zhi Dong
CS Dep. Chem., Indiana Univ.-Purdue Univ., Indianapolis, IN, 46223, USA
SO Tetrahedron Letters (1986), 27(41), 4933-6
CODEN: TELEAY; ISSN: 0040-4039
DT Journal

LA English
OS CASREACT 107:23056
AB A solid-phase copolymer of 4-vinylpyridine is a highly effective reagent for the synthesis of acid anhydrides from equimolar amts. of carboxylic acids and acid chlorides. The process may be carried out in batch or column mode.

L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1969:512025 CAPLUS
DN 71:112025
TI Organic compounds, including anhydrides useful as monomers
IN McKillop, Alexander; Taylor, Edward Curtis
SO Ger. Offen., 27 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 3

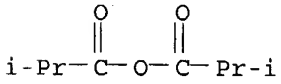
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 1903598	A	19690828	DE 1969-1903598	19690124
	US 3626018	A	19711207	US 1968-700352	19680125
	GB 1205373	A	19700916	GB 1969-1205373	19690122
	GB 1205374	A	19700916	GB 1969-1205374	19690122
	US 3780021	A	19731218	US 1971-112812	19710204
PRAI	US 1968-700352	A	19680125		

AB Tl(I) salts of β dicarbonyl compds., phenols, carboxylic acids, heterocyclic compds., and lactams are used in various transformations of these compds. including alkylation, acylation, ester and anhydride formation, and the preparation of biaryl compds. Thus, a suspension of 10.10 g. Tl(I) acetylacetonate (I) in 100 ml. MeI was refluxed 5 hrs., cooled, filtered through kieselgur, freed of excess MeI, and distilled, giving 3.7 g. 3-methylpentene-2,4-dione, b35 78-80°. Similarly, gaseous AcF was added to a suspension of 30.0 g. I in 150 ml. tetrahydrofuran at 3.0 ml./min. over 30 min., giving 96% HCAc3, b1·0 90-5°. The following compds. were prepared similarly (compound and b.p./mm. given): Et 2-methylacetoacetate, 82°/25; 2-methyl-2 (ethoxycarbonyl)-cyclopentanone, 124-6°/35; Et 2-methylbenzoylacetate, 96-7°/0.25; Et 2,2-dimethylbenzoylacetate, 98-100°/0.35; Et 2-ethylacetoacetate, 94-6°/25; 3-ethylpentane-2,4-dione, 78-80°/17; 2-ethyl-2-(ethoxycarbonyl)cyclopentanone, 134-6°/37; Et 2-ethylbenzoylacetate, 150-2°/0.6; Et 2-ethyl-2-methyl-benzoylacetate, 100-2°/0.3; Et 2-isopropylacetoacetate, 90-2°/18;3-isopropylpentane-2,4-dione, 94°/45; 2-isopropyl-2-(ethoxycarbonyl)cyclopentanone, 136-8°/37; Et 2-isopropyl-benzoylacetate, 108-10°/0.5; Et 2-isopropyl-2-methylbenzoyl-acetate, 116-18°/0.35. A solution of 0.0395 mole p-ClC6H4MgBr in 25 ml. benzene and 25 ml. tetrahydrofuran was treated with 22.46 g. TlBr, refluxed 7 hrs., cooled, poured into 150 ml. dilute HCl, and extracted with ether to give 61% 4,4'-dichlorobiphenyl, m. 148°. p-Quaterphenyl, m. 320°, and N,N,N',N'-tetramethyl-benzidine, subliming at 165°/0.05 mm. and m. 195°, were similarly prepared A solution of 6.58 g. phenol in 150 ml. benzene was heated nearly to reflux and mixed with 17.43 g. TlOEt in 50 ml. benzene, giving a precipitate of TlOPh in <1 min. The precipitate was separated and dried, giving 23.05 g.
TlOPh, m. 231-5°. A solution of 1.33 g. AcCl in 3 ml. Et2O was added dropwise over 5 min. to 5 g. TlOPh in 15 ml. Et2O. The mixture was stirred 1 hr. at room temperature, filtered, and the filtrate evaporated and distilled, giving 2.27 g. PhOAc, b58 110°. The following aryl esters were prepared by this method (compound and m.p. or b.p./mm. given): Ph pivalate, 112°/25; PhOBz, 70°; p-nitrophenyl acetate, 79-80°; p-nitrophenyl pivalate, 95-7°; p-nitrophenyl benzoate, 144-5°;

o-methoxyphenyl acetate, 35-6°; o-methoxyphenyl pivalate, 140°/1.7; o-methoxyphenyl benzoate, 205°/15; p-methoxyphenyl acetate, 35-6°; p-methoxyphenyl benzoate, 88-9°; β-naphthyl acetate, 70-1°; β-naphthyl pivalate, 65. 5-6.0°; β-naphthyl benzoate, 106. 5 -7.0°. A solution of 17.43 g. Tl2O in 200 ml. Et2O was rapidly added to 8.54 g. BzOH in 500 ml. warm Et2O. The precipitate was separated, recrystd. from aqueous MeOH, and dried, giving 95-9% BzOTl, m. 340°. A solution of 1.205 g. pivaloyl chloride in 3 ml. Et2O was added to a suspension of 3.25 g. finely divided BzOTl and 20 ml. Et2O, stirred 8 hrs. at 25° to give 2.06 g. mixed benzoic-pivalic anhydride. The sym. anhydride, Bz2O, m. 42°, was obtained by treating 0.01 mole TlOBz with 0.005 mole SOCl2. Pivalic, isobutyric, and acetic anhydrides were similarly prepared A solution of 13.30 g. 2-pyridone (Ia) in 300 ml. of a mixture of pentane and enough EtOH for dissoln. was treated with 10 ml. TlOEt. The precipitate was separated, giving 40.77 g. Ia Tl(I) salt (II), m. 152-5°. A suspension of 9.86 g. II in 50 ml. dry ether was treated with 2.75 g. AcCl over 10 min. and then stirred 30 min. to give 98% 2-acetoxypy ridine. 2-(Benzoyloxy)pyridine, m. 39-41°, 5 -methyl-6(5H)-phenanthridinone, m. 108°, and 5 -ethyl-6(5H)-phenathridinone, m. 87-90°, were similarly prepared TlOEt was added to a solution of 1.0 g. adenine (III) in AcNMe2 until no more precipitation was observed, stirred 5 hrs., filtered, and the residue purified, giving 2.3 g. III Tl(I) salt (IV), m. 330°. IV was suspended in AcNMe2 and treated with 1.1 g. PhCH2Br, giving 45% 9-benzyladenine, m. 230°. 6-Chloro-9-benzylpurine, m. 78°, and 9-benzylpurine, m. 99-100°, were similarly prepared from the 6-chloropurine and purine and purine Tl(I) salts, m. 330° and 255° (decomposition), resp. The applications for the various types of compds. prepared were listed.

=>

```
=> d his

     (FILE 'HOME' ENTERED AT 19:30:43 ON 20 DEC 2004)

     FILE 'REGISTRY' ENTERED AT 19:30:51 ON 20 DEC 2004
L1            1 S 97-72-3/RN
L2            1 S 108-24-7/RN

     FILE 'CAPLUS' ENTERED AT 19:31:22 ON 20 DEC 2004
L3           38 S L1/PREP
L4           17 S L3 AND L2

=> d l1
YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y


L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   97-72-3  REGISTRY
CN   Propanoic acid, 2-methyl-, anhydride (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Isobutyric anhydride (6CI, 7CI, 8CI)
OTHER NAMES:
CN   2-Methylpropanoic acid anhydride
CN   2-Methylpropanoic anhydride
CN   2-Methylpropionic anhydride
CN   Isobutanoic anhydride
CN   Isobutyric acid anhydride
CN   Isobutyryl anhydride
FS   3D CONCORD
MF   C8 H14 O3
CI   COM
LC   STN Files:   BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,
       CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DETHERM*, HODOC*, HSDB*, IFICDB,
       IFIPAT, IFIUDB, MSDS-OHS, NIOSHTIC, PS, SPECINFO, SYNTHLINE, TOXCENTER,
       USPAT2, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA  CAplus document type:  Journal; Patent
RL.P   Roles from patents:  ANST (Analytical study); BIOL (Biological study);
       PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES
       (Uses); NORL (No role in record)
RLD.P  Roles for non-specific derivatives from patents:  BIOL (Biological
       study); PREP (Preparation); PROC (Process); PRP (Properties); USES
       (Uses)
RL.NP  Roles from non-patents:  ANST (Analytical study); BIOL (Biological
       study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU
       (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT
       (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents:  ANST (Analytical
       study)
```



```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

             833 REFERENCES IN FILE CA (1907 TO DATE)
```

```
             7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
           835 REFERENCES IN FILE CAPLUS (1907 TO DATE)
            12 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> d l2
YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:y


L2   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   108-24-7  REGISTRY
CN   Acetic acid, anhydride (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Acetic anhydride (8CI)
OTHER NAMES:
CN   Acetic oxide
CN   Acetyl acetate
CN   Acetyl anhydride
CN   Acetyl ether
CN   Acetyl oxide
CN   Ethanoic anhydride
FS   3D CONCORD
MF   C4 H6 O3
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
       CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM*, DIPPR*,
       EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*,
       HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC,
       PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA,
       ULIDAT, USPAT2, USPATFULL, VTB
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA  CAplus document type:  Book; Conference; Dissertation; Journal; Patent;
       Report
RL.P   Roles from patents:  ANST (Analytical study); BIOL (Biological study);
       CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC
       (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process);
       PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role
       in record)
RLD.P  Roles for non-specific derivatives from patents:  ANST (Analytical
       study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP
       (Properties); RACT (Reactant or reagent); USES (Uses)
RL.NP  Roles from non-patents:  ANST (Analytical study); BIOL (Biological
       study); CMBI (Combinatorial study); FORM (Formation, nonpreparative);
       MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC
       (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses);
       NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents:  ANST (Analytical
       study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP
       (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or
       reagent); USES (Uses)


Ac—O—Ac


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

         16114 REFERENCES IN FILE CA (1907 TO DATE)
           398 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
```

US4303594

FR 2514345

FR 764458

16147 REFERENCES IN FILE CAPLUS (1907 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> d bib abs 1-17

L4 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:875971 CAPLUS
DN 141:351760
TI Dehydration process for making isobutyric anhydride from isobutyric acid and acetic anhydride
IN Paul, Jean-Michel; Busca, Patrick
PA Atofina, Fr.
SO Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1468980	A1	20041020	EP 2004-290802	20040325
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
	FR 2853900	A1	20041022	FR 2003-4785	20030416
	JP 2004315536	A2	20041111	JP 2004-121366	20040416
PRAI	FR 2003-4785	A	20030416		

AB A dehydration process is presented for making isobutyric anhydride from isobutyric acid and acetic anhydride with distillation of the acetic acid byproduct.
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:676744 CAPLUS
DN 135:226715
TI Two-step process for the preparation of triflic anhydride
IN Hembre, Robert Thomas; Lin, Robert
PA Eastman Chemical Company, USA
SO PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001066516	A1	20010913	WO 2001-US6704	20010301
	W: JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	US 2002002301	A1	20020103	US 2001-792995	20010226
	US 6469206	B2	20021022		
	EP 1261582	A1	20021204	EP 2001-914629	20010301
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	JP 2003525926	T2	20030902	JP 2001-565334	20010301
PRAI	US 2000-187832P	P	20000308		
	US 2001-792995	A	20010226		
	WO 2001-US6704	W	20010301		

OS CASREACT 135:226715; MARPAT 135:226715
AB Trifluoromethanesulfonic acid anhydride is prepared in high yield and selectivity by: (1) forming a mixed anhydride comprising a trifluoromethanesulfonyl residue and a carboxyl residue by contacting trifluoromethanesulfonic acid or a derivative of a carboxyl compound [selected from ketene, dialkyl ketenes (e.g., di-Me ketene), carboxylic acids, acyl

halides, and carboxylate salts]; and (2) subjecting the mixed anhydride to reactive distillation where the mixed anhydride undergoes disproportionation to produce triflic anhydride and a higher-boiling carboxylic acid anhydride (e.g., acetic anhydride).

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:460864 CAPLUS
DN 131:199342
TI Nonordinary destruction of aliphatic aldehydes C2-C4 in solutions of giant palladium clusters Pd-561
AU Gladii, S. L.; Starchevskii, M. K.; Lastovyak, , Yu. V.; Pezderskii, Yu. A.; Vargaftik, M. N.; Moiseev, I. I.
CS Borislavsk. Naukovo-Dosl. Inst. "Sintez", Borislav, Ukraine
SO Dopovidi Natsional'noi Akademii Nauk Ukraini (1998), (1), 174-178
CODEN: DNAUFL; ISSN: 1025-6415
PB Prezidiya Natsional'noi Akademii Nauk Ukraini
DT Journal
LA Ukrain/Ukrain
AB Giant palladium cluster (Pd561) solns. are found to catalyze at 333 K and 0.1 MPa the oxidative destruction of aliphatic aldehydes C2-C4 yielding carbon dioxide and hydrocarbons. Acetaldehyde is converted to CO2 and CH4. Destruction of propanal, butanal and i-butanal yields CO2 and olefins - accordingly, ethylene and propene. A reaction mechanism suggested includes the cleavage of the α-C-C bond of RCH2-C=O coordinated with a Pd-atom.

L4 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:589048 CAPLUS
DN 127:234784
TI Acylated polyallylamine and process for producing the same
IN Kato, Tadashi; Hayashi, Ikuo; Takeuchi, Minoru; Endo, Tadao
PA Nitto Boseki Co., Ltd., Japan
SO Eur. Pat. Appl., 25 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 791605	A2	19970827	EP 1997-300859	19970211
	EP 791605	A3	19980114		
	R: CH, DE, FR, GB, LI				
	JP 09286816	A2	19971104	JP 1997-3176	19970110
	JP 3199227	B2	20010813		
	NO 9700768	A	19970821	NO 1997-768	19970219
PRAI	JP 1996-31713	A	19960220		

AB Acylated polyallylamine with low cation d. is easily produced by treating a solution of polyallylamine having a polymerization degree of at least 10 with a carboxylic acid anhydride such as acetic anhydride. Thus, adding 189.4 g Ac2O in 4 h to 3443 g 10% aqueous PAA-10C (polyallylamine) solution at 0-5°, adding 511.13 g 14.83% aqueous NaOH solution to neutralize HOAc byproduct, and electrodialyzing 44 h to remove salts gave 30 mol% acetylated product.

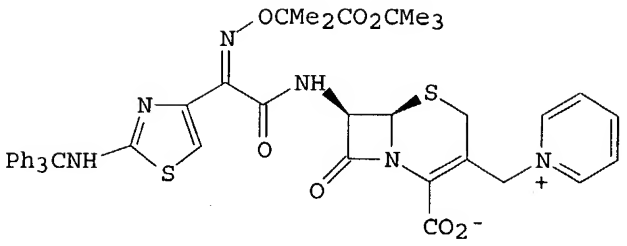
L4 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:41587 CAPLUS
DN 126:83599
TI Synthesis, Characterization, and Behavior of Hydridoruthenium Carbonyl Clusters Substituted with Functionalized Phosphines in the Presence of Hydrogen. 1. H4Ru4(CO)8[P(CH2OCOR)3]4 (R = CH3-, C2H5-, (CH3)2CH-, (CH3)3C-, (S)-C2H5CH(CH3)-)

AU Bianchi, Mario; Frediani, Piero; Salvini, Antonella; Rosi, Luca; Pistolesi, Leonardo; Piacenti, Franco; Ianelli, Sandra; Nardelli, Mario
CS Dipartimento di Chimica Organica, Universita di Firenze, Florence, 50121, Italy
SO Organometallics (1997), 16(3), 482-489
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
AB The synthesis and characterization of phosphines containing ester groups P(CH2O2CR)3 (R = CH3, C2H5, Me2CH, Me3C, (S)-C2H5CHMe) are reported. The new hydridoruthenium complexes H4Ru4(CO)8[P(CH2O2CR)3]4 were synthesized and characterized. The structure of (+)-(S)-H4Ru4(CO)8{P[CH2O2CCHMeC2H5]3}4 was determined by x-ray diffraction. The behavior of these complexes in hydrocarbon solution with H2 under pressure (130 atm) in the temperature range 25-130° was studied. The ester groups present in the ligand P(CH2O2CR)3 are hydrogenated under mild conditions with formation of the corresponding alc. RCH2OH.
RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

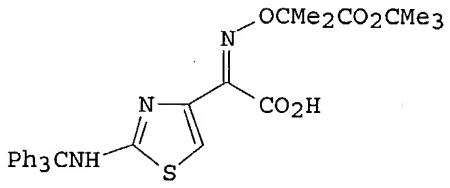
L4 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:602807 CAPLUS
DN 119:202807
TI Cobalt(II)-catalyzed reaction of aldehydes with acetic anhydride under an oxygen atmosphere: scope and mechanism
AU Bhatia, Beena; Punniyamurthy, T.; Iqbal, Javed
CS Dep. Chem., Indian Inst. Technol., Kanpur, 208016, India
SO Journal of Organic Chemistry (1993), 58(20), 5518-23
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
OS CASREACT 119:202807
AB The reaction of aldehydes with acetic anhydride in the presence of catalytic cobalt(II) chloride under an oxygen atmospheric at ambient temperature is dependent upon the reaction medium. Aliphatic aldehydes react in acetonitrile to give 1,2-diones whereas the aromatic aldehydes are acylated to yield the corresponding acylals. On the other hand, carboxylic acids are obtained from aliphatic and aromatic aldehydes by conducting the reaction in dichloromethane or benzene. Cobalt(II) chloride in acetonitrile catalyzes the conversion of aliphatic aldehydes to the corresponding anhydrides in the absence of acetic anhydride whereas aromatic aldehydes remain largely unaffected under these conditions. A preliminary mechanistic study in three different solvents (i.e. acetonitrile, dichloroethane, and DMF) has revealed that in acetonitrile and in the presence of acetic anhydride, aliphatic aldehydes behave differently than aromatic aldehydes. Some trapping expts. using Me acrylate and stilbene have been conducted to demonstrate the occurrence of an acyl cobalt and peroxyacyl cobalt intermediate during these reactions.

L4 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:427866 CAPLUS
DN 119:27866
TI Carboxylic sulfonic mixed anhydrides: general utility and application to the synthesis of ceftazidime
AU Wirth, David D.
CS Lilly Res. Lab., Eli Lilly and Co., Lafayette, IN, 47902, USA
SO Tetrahedron (1993), 49(8), 1535-40
CODEN: TETRAB; ISSN: 0040-4020
DT Journal
LA English
OS CASREACT 119:27866

GI



I



II

AB A high-yielding acylation process which utilizes a mixed anhydride of the type RCO2SO2CH3 for the synthesis of the ceftazidime ester I is detailed. The mixed anhydride is conveniently prepared by addition of MeSO2Cl to the triethylammonium salt of the oxyiminoacetic acid II. Although known for some time, these anhydrides have not been used often in acylations. This lack of general utility is explained by side reactions, especially formation of the carboxylic sym. anhydride in sterically unhindered systems.

L4 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:614970 CAPLUS
DN 117:214970
TI Method for purification of carboxylic acids and anhydrides
IN Zoeller, Joseph Robert; Moncier, Regina Michelle
PA Eastman Kodak Co., USA
SO PCT Int. Appl., 13 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9212954	A1	19920806	WO 1992-US631	19920127
	W: CA, JP, KR				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
	US 5175363	A	19921229	US 1991-646029	19910128
	CA 2098293	AA	19920729	CA 1992-2098293	19920127
	EP 569492	A1	19931118	EP 1992-905057	19920127
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
	JP 06505257	T2	19940616	JP 1992-505713	19920127
PRAI	US 1991-646029	A	19910128		
	WO 1992-US631	W	19920127		

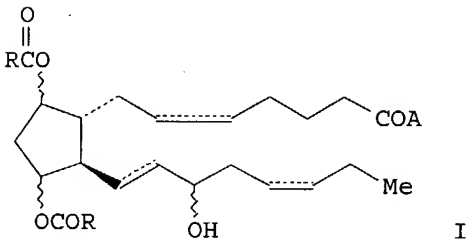
AB A method for reducing the amount of olefinic impurity in the title C2-8 carboxylic acids and C4-16 anhydrides comprises contacting them with a strong acidic resin. A sample of AcOH contaminated with 221 ppm 1-octene was added to Amberlyst-15, the mixture refluxed for 3 h to give AcOH containing only 15 ppm 1-octene.

L4 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:631971 CAPLUS
DN 115:231971
TI Preparation of intraocular pressure-reducing 9,11-diacyl prostaglandins
IN Chan, Ming Fai; Woodward, David Frederick; Gluchowski, Charles

PA Allergan, Inc., USA
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 410787	A2	19910130	EP 1990-308270	19900727
	EP 410787	A3	19911227		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	CA 2020842	AA	19910128	CA 1990-2020842	19900710
	AU 9059791	A1	19910131	AU 1990-59791	19900724
	AU 635294	B2	19930318		
	JP 03058932	A2	19910314	JP 1990-201045	19900727
	US 5034413	A	19910723	US 1990-585284	19900918
PRAI	US 1989-385834	A	19890727		

OS MARPAT 115:231971
GI



I

AB The title compds. I [dashed bond represents single bond or double bond (cis and trans configuration); A = OH, pharmaceutically acceptable salt thereof, OR1; R1 = alkyl; R = (un)saturated acyclic hydrocarbon, (CH2)nR2; n = 0-10; R2 = aliphatic hydrocarbon ring, aromatic or heteroarom. ring] were prepared
Treatment of prostaglandin F2α 15-tert-butyldimethylsilyl ether with isobutyric anhydride in the presence of pyridine and 4-dimethylaminopyridine, followed by deprotection, gave 9,11-diisobutyryl prostaglandin F2α (II). Six hours after topical administration of one drop of 0.1% solution of II, the intraocular pressure was decreased by 1.5 mmHg in rabbits.

L4 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:234482 CAPLUS
DN 112:234482
TI Polymer-catalyzed synthesis of acid anhydrides
IN Fife, Wilmer K.; Zhang, Zhi Dong
PA Indiana University Foundation, USA
SO U.S., 10 pp. Cont.-in-part of U.S. Ser. No. 52,439.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4874558	A	19891017	US 1988-284846	19881213
PRAI	US 1987-52439	A2	19870521		

OS CASREACT 112:234482; MARPAT 112:234482
AB Acid anhydrides are prepared by reaction of carboxylic acids or carboxylate

salts with acid halides or acyl-activating agents (e.g., SOCl2) at 0° to room temperature in the presence of catalysts selected from: (a) solid copolymers of 4-vinylpyridine, (b) solid copolymers of 4-vinylpyridine 1-oxide, and (c) water-soluble homopolymers of 4-vinylpyridine 1-oxide. Thus, reaction of Me(CH2)4COCl with PhCO2H using Reillex 425 catalyst (crosslinked 4-vinylpyridine copolymer) in CH2Cl2 at 0° for 10 min to give Me(CH2)4CO2COPh with 94.6% yield and 100% selectivity. Alternatively, use of EtCO2H and SOCl2 at 22-25° in CH2Cl2 with the same catalyst gave 96.0% (EtCO)2O. Use of acid halides and Na formate with a type (b) catalyst gave various mixed formic anhydrides. A type (c) catalyst was used with halides and carboxylate salts in H2O-CH2Cl2 mixts.

L4 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:476992 CAPLUS
DN 107:76992
TI Phase-managed organic synthesis. 3. Symmetrical anhydrides from carboxylic acids via polymer-assisted reaction
AU Fife, Wilmer K.; Zhang, Zhi Dong
CS Dep. Chem., Indiana Univ.-Purdue Univ., Indianapolis, IN, 46223, USA
SO Tetrahedron Letters (1986), 27(41), 4937-40
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English
OS CASREACT 107:76992
AB Sym. anhydrides are produced quickly and in high yield by treating mixts. of a carboxylic acid and one-half equivalent thionyl chloride in dichloromethane with a solid-state copolymer of 4-vinylpyridine. This conversion is accomplished equally well in batch or column mode.

L4 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:423056 CAPLUS
DN 107:23056
TI Phase-managed organic synthesis. 2. A new polymer-assisted synthesis of acid anhydrides
AU Fife, Wilmer K.; Zhang, Zhi Dong
CS Dep. Chem., Indiana Univ.-Purdue Univ., Indianapolis, IN, 46223, USA
SO Tetrahedron Letters (1986), 27(41), 4933-6
CODEN: TELEAY; ISSN: 0040-4039
DT Journal
LA English
OS CASREACT 107:23056
AB A solid-phase copolymer of 4-vinylpyridine is a highly effective reagent for the synthesis of acid anhydrides from equimolar amts. of carboxylic acids and acid chlorides. The process may be carried out in batch or column mode.

L4 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1976:432429 CAPLUS
DN 85:32429
TI O-Acylation using organothallium compounds
IN Taylor, Edward C.; McKillop, Alexander
PA USA
SO U.S., 7 pp. Division of U.S. 3,832,381.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3947488	A	19760330	US 1974-471925	19740521
	US 3626018	A	19711207	US 1968-700352	19680125
	US 3832381	A	19740827	US 1971-112815	19710204
PRAI	US 1968-700352	A3	19680125		

US 1971-112815 A3 19710204

AB Treatment of β-dicarbonyl compds. containing active H with ROTl (R = alkyl) gave thallous salts of the β-dicarbonyl compds., reaction of which with alkyl halides gave high yields of C-alkyl derivs., with acyl halides at room temperature gave C-acyl derivs., and with acyl halides at .apprx.-78° gave O-acyl derivs. In addition, reaction of acyl or aroyl halides with thallous phenolates or carboxylates gave phenyl esters or anhydrides, resp., and thallous salts of N heterocycles or of lactams were N-alkylated with alkyl halides, and the latter were O-acylated with acyl halides. Thus, (MeCO)2CH2 with EtOTl gave quant. (MeCO)2CHTl, which gave 100% (MeCO)2CHMe when treated with MeI.

L4 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1976:73840 CAPLUS
DN 84:73840
TI The 1,3-dipole in the sulfilimine-phosphine system. IV. Preparations of acid anhydrides, amides, esters, and thioesters
AU Oae, Shigeru; Aida, Tetsuo; Furukawa, Naomichi
CS Inst. Chem., Tsukuba Univ., Tsukuba, Japan
SO Chemical & Pharmaceutical Bulletin (1975), 23(11), 3011-16
CODEN: CPBTAL; ISSN: 0009-2363
DT Journal
LA English
OS CASREACT 84:73840
AB Complexes formed between N-arylsulfonylsulfilimines and Ph3P, for example a couple of S-benzyl-S-phenyl-N-p-tosylsulfilimine and Ph3P, reacted with such compds. as carboxylic acids, alcs., amines and acid anhydrides affording various interesting products. Among them, the reaction with carboxylic acids gave the corresponding anhydrides in substantial yields, and this reaction was extended to prepare esters and amides. All these reactions can be explained by assuming the initial formation of a 1,3-dipole intermediate (sulfurane) between sulfilimine and Ph3P.

L4 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:427818 CAPLUS
DN 83:27818
TI 1,3-Dipole in the sulfilimine-phosphine system. III. Acid anhydride, ester, and amide condensations by sulfilimine-phosphine system
AU Aida, Tetsuo; Furukawa, Naomichi; Oae, Shigeru
CS Fac. Eng., Osaka City Univ., Osaka, Japan
SO Chemistry Letters (1975), (1), 29-32
CODEN: CMLTAG; ISSN: 0366-7022
DT Journal
LA English
AB S-Alkyl-S-phenyl-N-p-tosylsulfilimine and Ph3P reacted with various carboxylic acids affording their anhydrides. The reaction was successfully extended to an ester- or amide-condensation reaction. These results can be interpreted by the initial formation of a 1,3-dipole between the sulfilimine and the phosphine.

L4 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1974:463092 CAPLUS
DN 81:63092
TI Synthesis of 4-oxo-2-alkyn-1-ols
AU Duranti, Ermanno; Balsamini, Cesarino
CS Inst. Org. Chem., Univ. Urbino, Urbino, Italy
SO Synthesis (1974), (5), 357-8
CODEN: SYNTBF; ISSN: 0039-7881
DT Journal
LA English
AB HC.tplbond.CCH2OH added to 2,3-dihydropyran to give 3-(tetrahydropyran-2-yloxy)-1-propyne, which was treated with NaNH2 in anhydrous Et2O and then (RCO)2O (R = Me, Et, Me2CH, n-C6H13, n-C11H23, PhCH2, Ph) to give 50-90% yields of the corresponding RCOC.tplbond.CCH2OH (I) after hydrolysis with

dilute H2SO4 in MeOH; I were converted to the corresponding 2,4-dinitrophenylhy-drazones and/or semicarbazones.

L4 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1969:512025 CAPLUS
DN 71:112025
TI Organic compounds, including anhydrides useful as monomers
IN McKillop, Alexander; Taylor, Edward Curtis
SO Ger. Offen., 27 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 1903598	A	19690828	DE 1969-1903598	19690124
	US 3626018	A	19711207	US 1968-700352	19680125
	GB 1205373	A	19700916	GB 1969-1205373	19690122
	GB 1205374	A	19700916	GB 1969-1205374	19690122
	US 3780021	A	19731218	US 1971-112812	19710204
PRAI	US 1968-700352	A	19680125		

AB Tl(I) salts of β dicarbonyl compds., phenols, carboxylic acids, heterocyclic compds., and lactams are used in various transformations of these compds. including alkylation, acylation, ester and anhydride formation, and the preparation of biaryl compds. Thus, a suspension of 10.10 g. Tl(I) acetylacetonate (I) in 100 ml. MeI was refluxed 5 hrs., cooled, filtered through kieselgur, freed of excess MeI, and distilled, giving 3.7 g. 3-methylpentene-2,4-dione, b35 78-80°. Similarly, gaseous AcF was added to a suspension of 30.0 g. I in 150 ml. tetrahydrofuran at 3.0 ml./min. over 30 min., giving 96% HCAc3, b1·0 90-5°. The following compds. were prepared similarly (compound and b.p./mm. given): Et 2-methylacetoacetate, 82°/25; 2-methyl-2 (ethoxycarbonyl)-cyclopentanone, 124-6°/35; Et 2-methylbenzoylacetate, 96-7°/0.25; Et 2,2-dimethylbenzoylacetate, 98-100°/0.35; Et 2-ethylacetoacetate, 94-6°/25; 3-ethylpentane-2,4-dione, 78-80°/17; 2-ethyl-2-(ethoxycarbonyl)cyclopentanone, 134-6°/37; Et 2-ethylbenzoylacetate, 150-2°/0.6; Et 2-ethyl-2-methyl-benzoylacetate, 100-2°/0.3; Et 2-isopropylacetoacetate, 90-2°/18;3-isopropylpentane-2,4-dione, 94°/45; 2-isopropyl-2-(ethoxycarbonyl)cyclopentanone, 136-8°/37; Et 2-isopropyl-benzoylacetate, 108-10°/0.5; Et 2-isopropyl-2-methylbenzoyl-acetate, 116-18°/0.35. A solution of 0.0395 mole p-ClC6H4MgBr in 25 ml. benzene and 25 ml. tetrahydrofuran was treated with 22.46 g. TlBr, refluxed 7 hrs., cooled, poured into 150 ml. dilute HCl, and extracted with ether to give 61% 4,4'-dichlorobiphenyl, m. 148°. p-Quaterphenyl, m. 320°, and N,N,N',N'-tetramethyl-benzidine, subliming at 165°/0.05 mm. and m. 195°, were similarly prepared A solution of 6.58 g. phenol in 150 ml. benzene was heated nearly to reflux and mixed with 17.43 g. TlOEt in 50 ml. benzene, giving a precipitate of TlOPh in <1 min. The precipitate was separated and dried, giving 23.05 g.
TlOPh, m. 231-5°. A solution of 1.33 g. AcCl in 3 ml. Et2O was added dropwise over 5 min. to 5 g. TlOPh in 15 ml. Et2O. The mixture was stirred 1 hr. at room temperature, filtered, and the filtrate evaporated and distilled, giving
2.27 g. PhOAc, b58 110°. The following aryl esters were prepared by this method (compound and m.p. or b.p./mm. given): Ph pivalate, 112°/25; PhOBz, 70°; p-nitrophenyl acetate, 79-80°; p-nitrophenyl pivalate, 95-7°; p-nitrophenyl benzoate, 144-5°; o-methoxyphenyl acetate, 35-6°; o-methoxyphenyl pivalate, 140°/1.7; o-methoxyphenyl benzoate, 205°/15; p-methoxyphenyl acetate, 35-6°; p-methoxyphenyl benzoate, 88-9°; β-naphthyl acetate, 70-1°; β-naphthyl pivalate, 65.5-6.0°; β-naphthyl benzoate, 106.5-7.0°.

A solution of 17.43 g. Tl2O in 200 ml. Et2O was rapidly added to 8.54 g. BzOH in 500 ml. warm Et2O. The precipitate was separated, recrystd. from aqueous MeOH, and dried, giving 95-9% BzOTl, m. 340°. A solution of 1.205 g. pivaloyl chloride in 3 ml. Et2O was added to a suspension of 3.25 g. finely divided BzOTl and 20 ml. Et2O, stirred 8 hrs. at 25° to give 2.06 g. mixed benzoic-pivalic anhydride. The sym. anhydride, Bz2O, m. 42°, was obtained by treating 0.01 mole TlOBz with 0.005 mole $SOCl_2$. Pivalic, isobutyric, and acetic anhydrides were similarly prepared A solution of 13.30 g. 2-pyridone (Ia) in 300 ml. of a mixture of pentane and enough EtOH for dissoln. was treated with 10 ml. TlOEt. The precipitate was separated, giving 40.77 g. Ia Tl(I) salt (II), m. 152-5°. A suspension of 9.86 g. II in 50 ml. dry ether was treated with 2.75 g. AcCl over 10 min. and then stirred 30 min. to give 98% 2-acetoxypy ridine. 2-(Benzoyloxy)pyridine, m. 39-41°, 5-methyl-6(5H)-phenanthridinone, m. 108°, and 5-ethyl-6(5H)-phenathridinone, m. 87-90°, were similarly prepared TlOEt was added to a solution of 1.0 g. adenine (III) in AcNMe2 until no more precipitation was observed, stirred 5 hrs., filtered, and the residue purified, giving 2.3 g. III Tl(I) salt (IV), m. 330°. IV was suspended in AcNMe2 and treated with 1.1 g. PhCH2Br, giving 45% 9-benzyladenine, m. 230°. 6-Chloro-9-benzylpurine, m. 78°, and 9-benzylpurine, m. 99-100°, were similarly prepared from the 6-chloropurine and purine and purine Tl(I) salts, m. 330° and 255° (decomposition), resp. The applications for the various types of compds. prepared were listed.

=>

DERWENT-ACC-NO: 1979-75665B

DERWENT-WEEK: 200392

TITLE: High boiling carboxylic anhydride prodn. - from corresp. acid and acetic anhydride, intermediate esp. for herbicides

INVENTOR: DANKERT, G; FINDEISEN, K ; LENTHE, M

PATENT-ASSIGNEE: BAYER AG[FARB]

PRIORITY-DATA: 1978DE-2815541 (April 11, 1978)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 4641 A	October 17, 1979	G	000	N/A
DE 2815541 A	October 18, 1979	N/A	000	N/A
DK 7901503 A	November 5, 1979	N/A	000	N/A
JP 54135706 A	October 22, 1979	N/A	000	N/A
BR 7902223 A	December 4, 1979	N/A	000	N/A

DESIGNATED-STATES: BE CH DE FR GB IT NL

CITED-DOCUMENTS: FR **784458**; US 2075035

INT-CL (IPC): C07C051/56, C07C053/26 , C07C061/08 , C07C063/06

ABSTRACTED-PUB-NO: EP 4641A

BASIC-ABSTRACT:

Prodn. of carboxylic anhydrides (I) comprises reacting the corresp. acids (II) with acetic anhydride (III) at normal or reduced pressure in a continuous or discontinuous reaction - distillation system with simultaneous sepn.

of (I) and
acetic acid. (R = phenyl (opt. substd. by methyl, ethyl, halo, CF3. CH3O,
C2H5O, CH3OCO, C2H5OCO, CN or NO2), cyclohexyl or tert. butyl).

Reaction is pref. in a continuous reaction - distillation column, or discontinuously in a stirred reactor fitted with an efficient distillation
system.

(I) are synthetic intermediates e.g. for herbicides such as 3-methyl-4-amino-6-phenyl-1,2,4-triazin-5-one.

Process gives almost quantitative yields of very pure (I) with short reaction
times. Waste gases and waste waters are not generated.

TITLE-TERMS: HIGH BOILING CARBOXYLIC ANHYDRIDE PRODUCE CORRESPOND ACID ACETIC
ANHYDRIDE INTERMEDIATE HERBICIDE

DERWENT-CLASS: C03 E19

CPI-CODES: C10-A15; C10-A25; E10-A15A; E10-A15E; E10-A25;

CHEMICAL-CODES:
Chemical Indexing M2 *01*
Fragmentation Code
K0 M282 M210 M213 M214 M233 M260 M313 M314 M320
L543 M620 N000 M510 M520 M530 M540 M720 M416 M902

Chemical Indexing M2 *02*
Fragmentation Code
K0 M320 M280 G563 G599 L543 N000 M510 M520 M530
M542 M720 M415 M902

Chemical Indexing M2 *03*
Fragmentation Code
K0 M282 M210 M211 M212 M231 M240 M270 M311 M312
M332 M322 M320 M280 M340 M344 M350 M392 G100 M532
L140 L199 L543 J231 J232 H341 H342 H343 H541 H542
H543 H601 H608 H609 H685 H602 H600 N000 M510 M520
M540 M720 M414 M902

Chemical Indexing M3 *04*
Fragmentation Code
K0 M282 M210 M213 M214 M233 M260 M313 M314 M320
L543 M620 N000 N340 M510 J0 M520 M530 M540 M720
M416 M902

Chemical Indexing M3 *05*
Fragmentation Code
K0 M320 M280 G563 G599 L543 N000 N340 M510 J0
M520 M530 M542 M720 M415 M902

Chemical Indexing M3 *06*
Fragmentation Code
K0 M282 M210 M211 M212 M231 M240 M270 M311 M312
M332 M322 M320 M280 M340 M344 M350 M392 G100 M532
L140 L199 L543 J231 J232 H341 H342 H343 H541 H542
H543 H601 H608 H609 H685 H602 H600 N000 N340 M510
J0 M520 J013 M540 M720 M414 M902

Chemical Indexing M2 *04*
Fragmentation Code
G000 G003 G030 G033 G034 G035 G036 G037 G038 G039
G563 G599 K0 L543 M280 M320 M415 M510 M520 M530
M542 M720 M903 N000

Chemical Indexing M2 *05*
Fragmentation Code
G000 G001 G010 G011 G012 G013 G014 G015 G016 G017
G018 G019 G100 H341 H342 H343 H541 H542 H543 H600
H601 H602 H607 H608 H609 H641 H642 H643 H681 H682
H684 H685 H686 H689 J011 J012 J013 J014 J231 J232
K0 L140 L141 L143 L145 L199 L543 M210 M211 M212
M231 M240 M270 M280 M282 M311 M312 M320 M322 M332
M340 M344 M350 M392 M414 M510 M520 M532 M540 M720
M903 N000

Chemical Indexing M3 *07*
Fragmentation Code
G000 G003 G030 G033 G034 G035 G036 G037 G038 G039
G563 G599 J0 K0 L543 M280 M320 M415 M510 M520
M530 M542 M720 M903 N000 N340

Chemical Indexing M3 *08*
Fragmentation Code
G000 G001 G010 G011 G012 G013 G014 G015 G016 G017
G018 G019 G100 H341 H342 H343 H541 H542 H543 H600
H601 H602 H607 H608 H609 H641 H642 H643 H681 H682
H684 H685 H686 H689 J0 J011 J012 J013 J014 J231
J232 K0 L140 L141 L143 L145 L199 L543 M210 M211
M212 M231 M240 M270 M280 M282 M311 M312 M320 M322
M332 M340 M344 M350 M392 M414 M510 M520 M532 M540
M720 M903 N000 N340